

What is Claimed:

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- 1** A method of assigning tasks to agents in a service center based on agent skills required to service individual tasks, comprising

in response to a task to be serviced, ascertaining all agent skills relevant to

- 5 process the task out of a set of n defined skills,

~~Spec. p.627 establishing a skill expression that defines a logical relationship between all skills relevant to service the task,~~

calculating a skill weight $W(I)$ for each relevant skill I that represents the relative importance of the skill in the skill expression,

- 10 deriving a score for each agent qualified to service the task based on the calculated skill weights, and

selecting an agent to service the task from the set of qualified agents according to the scores of each qualified agent.

L. P. B.

2. The method of claim 1 wherein the step of calculating a weight w_i for a given skill i further comprises calculating the value $\frac{a}{2^{m-1}}$, where a equals the number of times in the truth table corresponding to the skill expression that both the skill i and the skill expression are logically true and m is the number of unique skills specified in the skill expression.

Dear Mr. Green

3. The method of claim 2 wherein the step of deriving a set of qualified agents
further comprises

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calculating a total weight variable TW equal to the summation of the individual calculated weights of the relevant skills,

calculating a distance variable D for each agent equal to

$$\left(1 - \sum_{i=1..q} \frac{w_i \times (SP_i - EP_i)}{10 \times q} \right) \text{ where } SP_i \text{ is the proficiency of the agent for skill } i$$

- 5 and EP_i is the required proficiency of skill i ,

calculating a matched weight variable MW for each agent equal to the summation of the calculated weights for each skill possessed by the agent,

calculating a smallest weight variable SW equal to the smallest summation of weights for a combination of skills that satisfies the skill expression,

- 10 calculating a logic ratio variable LR equal to $1 - \left(\frac{(TW-SW)}{NZ} \right)$ where NZ is the number of skills with a weight of greater than zero,

calculating a weight ratio variable WR equal to $1 - \left(\frac{MW-SW}{TW} \right)$,

calculating a non-relevant skills ratio NR equal to $\min\left(1, \frac{2^m}{2^n}\right)$,

- 15 calculating a score S for each agent equal to D times LR times WR times NR,
and

selecting an agent to service the task based on the value of S.

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4. A method of assigning tasks to agents in a service center based on agent skills required to service individual tasks, comprising

in response to a task to be serviced, ascertaining all agent skills relevant for processing the task out of a set of n defined skills and a level of proficiency

5 associated with each task,

establishing a skill expression that defines a logical relationship between the relevant skills and their respective proficiency levels sufficient to qualify an agent to service the task,

10 calculating a weight for each relevant skill that represents the relative importance of the skill in the skill expression,

deriving a set of agents qualified to service the task according to the skill expression,

calculating a score for each qualified agent using the calculated weights, wherein each score represents the closeness of the associated agent's qualifications to

15 the skill expression, and

selecting an agent to service the task according to the calculated scores.